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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

HEIN, GREGORY P

ART UNIT	PAPER NUMBER
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2188

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/828,286	Applicant(s) NAKAGAWA ET AL.	
	Examiner Gregory P. Hein	Art Unit 2188	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 17 and 19 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1 - 3, 5, 7 - 9, 11 - 13, 16 and 19 is/are rejected.
 7) ☒ Claim(s) 4, 6, 10, 14 - 15, and 17 is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 9 is objected to because of the following informalities: lines 16 - 17 state "The volume management method according to claim 6." Examiner believes this is a mistake and gives no weight to this fragment. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 8 and 13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.
4. Claim 8 line 3 claims "the level indicating the specific performance of the volume indicates that the specific performance is not needed." It is unclear how the level, retrieved from a volume, indicating the specific performance of said volume can also indicate demand for said volume at a higher level of the system.
5. Claims 3, 5, 7, 9 in lines 11 – 16 for all claims claim "referencing the storage system characteristics of the first storage system that corresponds to the obtained level indicating the performance of the volume and storage system characteristics of another

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storage system that corresponds to the obtained level indicating the performance of the volume, respectively, and comparing the performances of the volumes of the respective storage systems against each other.” The claims require referencing the storage system characteristics of the first storage system corresponding to the obtained level on lines 11 - 12. The claims also states “...storage system characteristics of another storage system that corresponds to the obtained level indicating the performance of the volume...” It would be unclear to one of ordinary skill in the art how a level could correspond to multiple volumes and especially multiple volumes in multiple storage systems.

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 3, 5, 7, 9, 11 and 12 recite “the volume” in line 8 for all claims. It cannot be determined which of the plurality of volumes applicant intends for the stated limitation.
3. Claim 2 recites the limitation “a correspondence” on line 2. It is unclear if this is equivalent to claim 1, which recites the limitation “a correspondence” on line 6.
4. Claim 3 recites the limitation “a correspondence” on line 19. It is unclear if this is equivalent to claim 3, which recites the limitation “a correspondence” on line 6.
5. Claim 3 recites “the computer” on line 4. It is unclear if this refers to subject matter “a management computer” on line 2 or “a computer” on line 3.
6. Claim 16 recites the limitation “the plurality of storage systems” in lines 14 and 18. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 19 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Line 1 of claim 19 reads "A storage medium storing a program." The main subject matter, a program, is not limited in this case to a computer readable medium as is required to satisfy statutory subject matter requirements. In its present form, the storage medium contains the program to which the remaining limitations of the claim appear to be directed, however, there is no language which indicates that the program must be exclusively limited to a computer readable medium embodiment.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Pre-Grant Publication 2004/0,123,180 (Soejima et al.)

3. As per claim 1, Soejima teaches:

A method of managing volumes of a plurality of storage systems (Soejima ¶226), by a management computer connected via a first network to the plurality of storage systems (Soejima ¶226 lines 1 - 1 "The performance management program" labeled as 24440 in figure 24 is shown as a program contained within computer 23900 shown in figure 24 and shown further in figure 23) having volumes connected to a computer via a second network and storing data used by the computer (Soejima ¶226 lines 6 - 14), the method comprising the steps of:

Keeping a correspondence between each value of a level and characteristic information related to characteristics of each volume to be provided by a storage system including the volume (Soejima ¶72 lines 7 - 15);

Obtaining from a first storage system, a first value of a level indicating characteristic information of a first volume having been provided to the computer by the first storage system (Soejima ¶75 lines 1 – 8 and ¶78); and

Referencing the characteristic information corresponding to the first value among the plurality of storage systems (Soejima ¶75); and

Comparing the referenced characteristic information among the plurality of storage systems against each other (Soejima ¶75 lines 2 – 7 "...acquiring the performance information on each of the parity groups and volumes in the storage apparatus 2200 and storage apparatus 2300 from the communication device 4130 and performance information management unit 4160 to determine whether or not the performance of a destination volume should be adjusted.")

As per claim 2, Soejima teaches:

A correspondence is obtained from the storage system connected to the management computer (Soejima ¶75).

Allowable Subject Matter

4. Claims 4, 6, 10, 14 – 15 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Amendment

5. The amended claims filed on 1/17/2006 under 37 CFR 1.131 has been considered but is ineffective to overcome the U.S. Pre-Grant Publication 2004/0,123,180 (Soejima et al.) reference.

6. As per applicant's argument that Soejima does not teach keeping a correspondence (pg. 18 lines 11 – 16), Soejima teaches acquiring "performance information on each of the parity groups and volumes in the storage apparatus" (Soejima ¶75) and determining if the destination performances satisfy certain performance criteria. Examiner asserts that acquiring performance information on various parity groups and volumes is equivalent to keeping correspondences and collecting levels on volumes.

7. As per applicant's argument that Soejima does not teach referencing the characteristic information (pg. 18 lines 17 – 20) Soejima teaches determining if the performance information collected satisfies certain performance criteria (Soejima ¶75.)

Making this determination requires referencing and comparing the performance information collected against the current performance information.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory P. Hein whose telephone number is 571-272-4180. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on 571-272-4210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

3/21/2006
Gregory Hein


MANO PADMANABHAN 3/21/06
SUPERVISORY PATENT EXAMINER